

Remarks

Amendments to the Claims

The Examiner called Applicants' attorney on December 22 advising that the claims remaining in the application were allowable if limited to the species elected for prosecution in this application following a second Requirement for Restriction mailed January 28, 2008.

Applicants' attorney gratefully acknowledges the helpful discussions with the Examiner.

In their response dated February 6, 2008 Applicants traversed the second restriction but proposed a provisional election to initially prosecute claims reading on methods of producing hydrogen using compositions comprising a lithium cation containing hydride or a lithium cation containing hydroxide or hydrated hydroxide. In an Office action mailed April 29, 2008, the Examiner concluded that the restriction requirement was final and proper. The Examiner stated on page 3 of that Action that "Applicant has elected the species wherein both the hydride and hydroxide comprise a lithium cation. Therefore, the claims drawn to this species are examined."

Applicants' specification and original claims disclose hydrides and hydroxides comprising lithium-containing cations such as Li^{+1} , LiB^{+4} , LiAl^{+4} , and LiAl_2^{+7} (as in $\text{LiAl}_2(\text{OH})_7 \cdot 2\text{H}_2\text{O}$). Since it is Patent Office practice to construe claims as broadly as the language reasonably permits, it is believed that the Examiner's search would be directed to and find hydrogen storage materials and methods with lithium-containing cations such as those disclosed and others. Accordingly, the remaining claims are amended to read on species in which both the hydride and hydroxide comprise a lithium-containing cation. But such lithium-containing cations may contain elements and radicals in addition to lithium as disclosed throughout their specification.

Independent claims 1, 67, and 72 are amended to state that the hydride comprises a lithium-containing cation and the hydroxide comprises a lithium-containing cation. Dependent claims 10-12, 16-18, 20-27, 55, and 73-82 are amended to be consistent with their respective independent claims in reciting cations that are lithium cations or cations containing lithium and other elements.

It is intended and believed that with these amendments the claims remaining in the application are limited to methods of producing hydrogen using lithium-containing cations in

both the hydrides and hydroxides used in the methods. Applicants believed that they have conformed the scope of the claims to that of the imposed restriction requirement. This is done with the observation that their companion hydrogen storage materials application, No.10/787,292, is allowed with a much broader range of cation species.

The Advisory Action states that claims 67-71 did not require that lithium hydride and lithium hydroxide are pre-mixed for timely release of hydrogen. The advisory suggests that claims 67-71 are not distinguished from the Machin et al paper. Accordingly, independent claim 67 has also been amended to state that hydride particles, to be reacted with water, are in contact with the other hydride particles and the hydroxide particles. This embodiment is described, for example, in paragraphs 0105-0111 of the specification. As stated in paragraph 0105, the heat of reaction of water with the first portion of hydride heats the surrounding starting materials of hydride and hydroxide particles. This amendment is believed to clearly distinguish claims 65-71 from the Machin et al reference.

Cancellation of Withdrawn Claims

Withdrawn claims 13, 30-47, 50-53, 56, 58-60, 62, 83, 85-87, and 89 are cancelled subject to Applicants' right to file a divisional application.

If there are unresolved issues concerning this application that could be discussed, the Examiner is invited to call Applicants' attorney at the number provided below. However, it is believed, that with the above amendments, claims 1-12, 14-29, 48-49, 54-55, 57, 61, 63-82, 84 and 88 are allowable. It is requested that these claims be allowed and the application passed to issue.

Respectfully Submitted,

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